

Application No.: 10/715,239

Art Unit: 2123

Docket No.: MWS-086

AMENDMENTS TO THE CLAIMS**RECEIVED
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1. (currently amended) In an electronic device, a method of altering a graphical model, comprising:
- identifying a component of the graphical model for conversion into a reference[[and]]
 - processing the component to identify ~~one of~~ similarities with other components[[and]] or similarities with selected characteristics, and automatically converting the component into the[[a]] reference; and
 - storing the reference.
2. (original) The method of claim 1, wherein the component comprises at least one of a system, a sub-system, a portion of a system, and a portion of a sub-system disposed within the graphical model.
3. (original) The method of claim 1, wherein the graphical model comprises a plurality of components.
4. (original) The method of claim 1, wherein identifying the component comprises heuristically locating a re-usable pattern and selecting the component to represent the re-usable pattern.
5. (original) The method of claim 1, wherein identifying the component comprises utilizing a checksum to identify a selected pattern and selecting the component that matches the selected pattern.
6. (original) The method of claim 1, wherein identifying the component comprises heuristically locating a specific type of component and selecting the component that matches the specific type.
7. (original) The method of claim 1, wherein identifying the component comprises locating a selected acyclic graph of blocks and selecting the component that contains the selected acyclic graph of blocks.

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8. (original) The method of claim 1, wherein identifying the component comprises utilizing a partitioning specific checksum to select a predetermined combination of selected patterns and selected re-usable features of the component for identification.

9. (original) The method of claim 1, wherein identifying the component comprises soliciting user interaction to participate in a selection of the component based on at least one of pattern matching, re-usability, and polymorphism characteristics.

10. (original) The method of claim 1, wherein automatically converting the component into a reference comprises creating a new model and copying the component into the new model.

11. (original) The method of claim 10, further comprising setting compiled properties to be fixed into input and output ports.

12. (original) The method of claim 10, wherein automatically converting the component into a reference further comprises copying a configuration set from the component into the new model.

13. (original) The method of claim 12, wherein the configuration set comprises model peripheral information.

14. (original) The method of claim 10, further comprising replacing the other components with references to the new model.

15. (original) The method of claim 1, wherein automatically converting the component into a reference comprises collapsing the component into a subsystem within the graphical model.

16. (original) The method of claim 15, wherein automatically converting the component into a reference further comprises copying the subsystem into a library, forming a library subsystem and leaving an original version of the subsystem within the graphical model.

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17. (original) The method of claim 16, wherein automatically converting the component into a reference further comprises replacing the original version of the subsystem with a reference to the library subsystem.

18. (original) The method of claim 17, further comprising replacing the other components with references to the library subsystem.

19. (original) The method of claim 1, wherein the reference comprises at least one of a library reference and a model reference.

20. (currently amended) In an electronic device, a [[A]]system for altering a graphical model, the system comprising:

an identifier for identifying a component of the graphical model for conversion into a reference;[[and]]

a converter for processing the component to identify ~~one of~~ similarities with other components[[and]] or similarities with selected characteristics, and automatically converting the component into the[[a]] reference; and

a storage facility for storing the reference.

21. (original) The system of claim 20, wherein the component comprises at least one of a system, a sub-system, a portion of a system, and a portion of a sub-system disposed within the graphical model.

22. (original) The system of claim 20, wherein the graphical model comprises a plurality of components.

23. (original) The system of claim 20, wherein identifying the component comprises heuristically locating a re-usable pattern and selecting the component to represent the re-usable pattern.

24. (original) The system of claim 20, wherein the identifier utilizes a checksum to identify selected patterns and selecting the component that matches the selected patterns.

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25. (original) The system of claim 20, wherein the identifier heuristically locates a specific type of component and selects the component that matches the specific type.
26. (original) The system of claim 20, wherein the identifier locates a selected acyclic graph of blocks and selects the component that contains the selected acyclic graph of blocks.
27. (original) The system of claim 20, wherein the identifier utilizes a partitioning specific checksum to select a predetermined combination of selected patterns and selected re-usable features of components for identification.
28. (original) The system of claim 20, wherein the identifier solicits user interaction to participate in a selection of components based on at least one of pattern matching, re-usability, and polymorphism characteristics.
29. (original) The system of claim 20, wherein the converter creates a new model and copies the component into the new model.
30. (original) The system of claim 29, the converter sets compiled properties to be fixed into input and output ports.
31. (original) The system of claim 29, the converter copies a configuration set from the component into the new model.
32. (original) The system of claim 31, wherein the configuration set comprises model peripheral information.
33. (original) The system of claim 29, wherein the converter replaces the other components with references to the new model.
34. (original) The system of claim 20, wherein the converter collapses the component into a subsystem within the graphical model.

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35. (original) The system of claim 34, wherein the converter copies the subsystem into a library, forming a library subsystem and leaving an original version of the subsystem within the graphical model.

36. (original) The system of claim 35, wherein the converter replaces the original version of the subsystem with a reference to the library subsystem.

37. (original) The system of claim 36, wherein the converter replaces the other components with references to the library subsystem.

38. (original) The system of claim 20, wherein the reference comprises at least one of a library reference and a model reference.

39. (currently amended) A computer-readable medium holding computer executable ~~instructions-steps~~ for carrying out a method of altering a graphical model, the ~~medium-method~~ comprising:

instructions for identifying a component of the graphical model for conversion into a reference;[[and]]

instructions for processing the component to identify ~~one of~~ similarities with other components[[and]] or similarities with selected characteristics, and automatically converting the component into the[[a]] reference; and

instructions for storing the reference.

40. (original) The medium of claim 39, wherein the component comprises at least one of a system, a sub-system, a portion of a system, and a portion of a sub-system disposed within the graphical model.

41. (original) The medium of claim 39, wherein the graphical model comprises a plurality of components.

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42. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for heuristically locating a re-usable pattern and selecting the component to represent the re-usable pattern.

43. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for utilizing a checksum to identify selected patterns and selecting the component that matches the selected patterns.

44. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for heuristically locating a specific type of component and selecting the component that matches the specific type.

45. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for locating a selected acyclic graph of blocks and selecting the component that contains the selected acyclic graph of blocks.

46. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for utilizing a partitioning specific checksum to select a predetermined combination of selected patterns and selected re-usable features of components for identification.

47. (currently amended) The medium of claim 39, wherein the instructions for identifying the component comprises instructions for soliciting user interaction to participate in a selection of components based on at least one of pattern matching, re-usability, and polymorphism characteristics.

48. (currently amended) The medium of claim 39, wherein the instructions for automatically converting the component into a reference comprises instructions for creating a new model and copying the component into the new model.

49. (currently amended) The medium of claim 48, further comprising instructions for setting compiled properties to be fixed into input and output ports.

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50. (currently amended) The medium of claim 46, wherein the instructions for automatically converting the component into a reference further comprises instructions for copying a configuration set from the component into the new model.

51. (original) The medium of claim 50, wherein the configuration set comprises model peripheral information.

52. (currently amended) The medium of claim 48, further comprising instructions for replacing the other components with references to the new model.

53. (currently amended) The medium of claim 39, wherein the instructions for automatically converting the component into a reference comprises instructions for collapsing the component into a subsystem within the graphical model.

54. (currently amended) The medium of claim 53, wherein the instructions for automatically converting the component into a reference further comprises instructions for copying the subsystem into a library, forming a library subsystem and leaving an original version of the subsystem within the graphical model.

55. (currently amended) The medium of claim 54, wherein the instructions for automatically converting the component into a reference further comprises instructions for replacing the original version of the subsystem with a reference to the library subsystem.

56. (currently amended) The medium of claim 55, further comprising instructions for replacing the other components with references to the library subsystem.

57. (original) The medium of claim 39, wherein the reference comprises at least one of a library reference and a model reference.

58. (currently amended) In an electronic device, a method of simplifying a model, comprising:
~~providing a plurality of components forming the model;~~

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identifying repeating occurrences of a pattern among[[the]] a plurality of components;
creating a new model based on the pattern;
replacing each of the repeating occurrences of the pattern with a reference to the new
model; and
storing the reference.

59. (original) The method of claim 58, wherein each of the plurality of components comprises at least one of a system, a sub-system, a portion of a system, and a portion of a sub-system disposed within the graphical model.

60. (original) The method of claim 58, wherein identifying repeating occurrences of the pattern comprises heuristically locating a re-usable pattern amongst the plurality of components and selecting one of the plurality of components to represent the re-usable pattern.

61. (currently amended) The method of claim 58, wherein identifying the repeating occurrences of the pattern comprises utilizing a checksum to identify selected patterns amongst the plurality of components and selecting individual of the plurality of components that matches the selected patterns.

62. (original) The method of claim 58, wherein identifying the repeating occurrences of the pattern comprises heuristically locating a specific type of component amongst the plurality of components and selecting one of the plurality of components that matches the specific type.

63. (original) The method of claim 58, wherein identifying the repeating occurrences of the pattern comprises locating a selected acyclic graph of blocks amongst the plurality of components and selecting one of the plurality of components that contains the selected acyclic graph of blocks.

64. (original) The method of claim 58, wherein identifying the repeating occurrences of the pattern comprises utilizing a partitioning specific checksum to select a predetermined combination of selected patterns and selected re-usable features of components amongst the plurality of components for identification.

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65. (original) The method of claim 58, wherein identifying the repeating occurrences of the pattern comprises soliciting user interaction to participate in a selection of components based on at least one of pattern matching, re-usability, and polymorphism characteristics.

66. (original) The method of claim 58, wherein the reference comprises at least one of a library reference and a model reference.